

The



AMERICAN PERFUMER



JUNE
1906

PUBLISHERS UNGERER & CO. NEW YORK

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CANNES, FRANCE

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JACINTHE, JASMIN, LILACINE, MUSK, NARCISSE, NERONIA, NEROLI,
CEILLET, SYRINGA, VIOLETTONE

TYPICAL IN ODOR—HIGH IN EFFICIENCY

AMERICAN BRANCH, 15 PLATT STREET, NEW YORK

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THE AMERICAN PERFUMER

PUBLISHED MONTHLY

Subscription, Three Dollars Per Annum

UNGERER & CO., 15 PLATT ST., NEW YORK

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NEW YORK, JUNE, 1906.

Vol. I, No. 4.

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UNGERER & COMPANY, Publishers

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ADVERTISING RATES ON APPLICATION.

EDITORIAL NOTICE

WE invite correspondence and special articles upon subjects of interest to all engaged in the manufacture and sale of Perfumes, Soaps and Toilet Articles. THE AMERICAN PERFUMER is the OPEN FORUM for each and all in the Trade. The usual right to reject objectionable matter and advertisements is reserved.

PERFUMES WHICH SELL.

Which are the most saleable perfumes? Not which are the finest, or which are the most artistically compounded, but which sell the best, is one of the practical questions that concerns every Manufacturing Perfumer in the land. He may have the most exalted possible ideals, and the loftiest conception of his purposes, but after all if his goods do not sell what is the use of making them?

Many a perfumer is compelled to confess that a new extract, in the compounding of which he has taken the greatest pride, has not seemed to strike the popular fancy, and has been therefore relegated to the rear.

The experience of the leading perfumers proves that it is the strong, decided perfumes that sell best and longest. No matter how fine and delicate a floral odor has been produced if it be not strong and striking it does not command the patronage of the general purchaser.

Experience also proves that "Bouquets" are generally the most popular. Lily of the Valley was one of the few distinctive flower odors that met with success, for though Violet always sold more or less,

it did not become extremely popular until lately, when it was made very strong by the purifying of the natural material and its reinforcement with artificial violet products.

This element of strength is now generally recognized as an essential in the successful perfume. This has become possible of late through the perfecting of the processes for purifying the natural essential oils, so that more can really be introduced into the compound than before, as well as the discovery of powerful Synthetic Aromatic Principles, which are useful in reinforcing the natural oils.

The carefully prepared tinctures are no less necessary for the manufacture of strong perfumes, and these must be fully "saturated" to begin with.

It need hardly be added that this powerful and saleable perfume must at the same time have character, be agreeable, and as flowery as possible. But the element of strength is the one to be emphasized if the manufacturer is to sell his goods.

The public is to be suited, not the dilettante in odors, who will admire, praise and buy an ounce. Hundreds of pounds, even thousands, must be sold for any extract to be profitable, and in order to do this the general public must be pleased. If they want strong perfumes, as seems to be the general demand, give them the strongest you can for the price, or some one else will, and he will get the business.

NOT FORMULAE ALONE.

It is not the formula alone that makes the successful perfume. This is generally admitted. A dozen men using the same formula, and even the same raw materials, will obtain a dozen varying results. If the raw materials differ, the variations in the finished products will be all the greater. A good formula is based upon pure ingredients, and any adulteration of even one of these materials may ruin all of the other good products.

There is, however, another element necessary to the manufacture of rich, mellow extracts. The amateur wonders why a famous formula does not work out well in his hands, forgetting that the real secret lies between the lines. One of the first principles as laid down by the most successful of French Perfumers, is to select the best material you can buy, and make your tinctures of Musk, Civet, etc., as long before they are to be used as possible. If your tincture is three years old it is not three times, but ten times as good as that one year old.

The next important principle is the exercise of the utmost care in weighing and measuring—and especially in the mixing of the materials in proper order.

The French Manufacturers lead the world, because they are true to all of these basic rules. If a manufacturer of raw materials has some exceptionally fine product, whether it be Oil of Bergamot of high Ester, or Otto of Rose of high congealing point, or pure Oil of Neroli of most delicate fragrance, he hastens to Paris, knowing that he can ask his own price for something exceptionally excellent. It is not a question of price at all, but one of quality alone that controls the French Perfumery Manufacturer.

And when he has purchased the finest materials he can secure, sometimes laying up a stock of the exceptional product, so that he may not be without it, he makes his extract with the oldest tinctures, and the best spirits. And when he has made the best extract he can, he stores it up to ripen, not allowing an ounce to go out in less than six months from the day it is finished. The result is the mellow, rich, full-flavored and odorous extract of Paris.

In the United States unfortunately we are in an awful hurry. It is the exceptional Perfumery manufacturer who will store up tinctures for future use. He wants to buy good material, he tells you, but he does not care to pay top price for it. The best material always commands top price. And even if he have bought the best material, and matured his tinctures more or less, how long does he allow his extract to ripen?

Is it not true that he wants to turn his money over quickly, and that when the order comes in it is filled with goods so "Green" that the oils are hardly well mixed together?

Have we not put our finger upon one of the sore spots in the trade? Are not some of our leading manufacturers more or less guilty of failure in the observance of some of these primary rules, and

especially of that one dealing with the maturing of tinctures and ripening of extracts?

How can a reform be brought about? Is it not a matter for those manufacturers seeking the highest class patronage to consider earnestly and seriously?

DENATURED ALCOHOL.

The struggle of years is over at last. The President has signed the Denatured Alcohol bill, which goes into effect January, 1907. It was only after twenty years of constant agitation and hard work on the part of friends of the cause that the haughty interests opposed to the passage of the bill were compelled to yield to the force of public opinion.

Here is a demonstration of what the American people can do when they are thoroughly awake to a reform. It was ridiculous that European Nations had alcohol for manufacturing and combustion at seven cents a quart, while we had to use Standard Oil, or pay the prohibitive tax.

The perfumers are only indirectly interested in the passage of this bill at present, but as a body of important manufacturers they should have more than a word to say as to a method of denaturing which will make grain-alcohol unfit for drinking, but still adapted to the making of certain classes of perfumery.

One method practiced abroad should commend itself to the Executive Committee of the Manufacturing Perfumers' Association, who can then have the proper committee take up the matter with the authorities at Washington. The mode of denaturing to which we refer is as follows: Into fifty gallons of grain spirits, put three gallons of deodorized Methylic Alcohol. This compound would be perfectly well adapted to the manufacture of some Extracts and Toilet Waters, but would be absolutely undrinkable.

Whether the perfumers can bring this about all at once remains to be seen, but by constant agitation they should be able to secure spirits in usable form for their manufacturing.

We know that some of the leading men in the Association are alive to this important matter, but they require the general support of the rank and file.

Notwithstanding all improvements that have been made in the deodorizing of Methylic Alcohol, Grain Spirits must continue to be the chief and only medium for the manufacture of the finest perfumes.

LEADING AMERICAN PERFUMERS.

LAZELL, DALLEY & COMPANY, New York.

The evolution of the extensive business of Lazell, Dalley & Co., is one of the peculiar phenomena of the development of Specialists.

Originally, in 1839, the firm of Haskell & Bull were druggists manufacturing some Perfumery. When a little later, it became the firm of Haskell, Merrick & Bull, a little more Perfumery was manufactured. Under the style of Lazell, Marsh & Gardiner, Perfumery played a still more important part in the business of the firm, and after 1885, when operating as Lazell, Dalley & Co., Perfumery seemed to promise even better results.

It was not until 1891, however, when the partnership having expired by limitation, the company was incorporated, that Perfumery became the exclusive business of this house. This had been brought about chiefly by the personal endeavor of Mr. Henry Dalley, now the President of the Company. He saw the promise of the Perfumery department, and with the consent of his partner had redoubled his efforts in this direction so that within six years he proved the possibilities of the Perfumery business to such an extent that the incorporated Company put aside the drug business altogether.

Mr. Henry Dalley, still the President of the Company, therefore rightfully prides himself upon the perspicacity through which the value of the Manufacturing of Perfumery was recognized, and the farsightedness that developed it along right lines.

From the very beginning, Mr. Dalley recognized the necessity of making not only popular goods, but the best Extracts that science and taste could compose. He felt that while there were a few Americans who, upon their European travels, fancied some French Perfume and called for it after their return home, that the rank and file of American buyers would appreciate good Extracts even though they bore the name of an American manufacturer, perhaps, just because they bore the stamp of home production. In the first instance, one of the most popular Extracts made was "Persian Bouquet," which was sold in large quantities and is still in steady demand. In the early days, it was sufficient for a house to make a good Cologne, and a few staple extracts, but during the last few years conditions have changed and a progressive concern like this one had to accommodate itself to the change. Perhaps it is due to competition

and the springing up of many new manufacturers of Perfumery, but be that as it may, it is necessary now to produce at least five or six novelties every year, or the demand is not met. It is not only that there must be some new odors, and some new names for the odors, but the packages and labels must be fresh, bright and attractive, or the sales fall off at once. In this line, much endeavor and thought has been expended as well, so that when you look over the full line of goods presented by Lazell, Dalley & Co., you see not only graceful and handsome cut-glass bottles, filled with Extracts and Toilet Waters of varying shade and odor, but packages of different shapes and sizes all the way down to the very artistic ½-ounce and ounce packages in distinctively attractive boxes, to be sold for twenty-five and fifty cents retail.

Naturally "Everything in Perfumes" is made by this house, to supply the needs of the most fastidious inquirer for Extracts, Toilet Waters or Talcum Powders as well as the every-day purchaser who wants "something sweet" or "something strong" or both combined. One of the most popular odors sold by them has been "Field Violets;" but "Japanese Honeysuckle" has also received wide recognition.

The "Violette de Parme," made by them, is distinctive in odor and color, and the "Japanoda" and "Violetta" are two of the newest and most popular odors produced in their laboratory.

The finest product coming from this concern is "Perpetua," a "Bouquet" mixture of most pleasing effect, more or less resembling the well-known "Ideal," though by no means copied therefrom.

As one of the dominant powers in the Manufacturing Perfumers' Association, the President of Lazell, Dalley & Co. has seen many changes in the Perfumery business. When that Association was formed in 1894, there were not twenty manufacturing Perfumers in the United States; now there are at least two hundred and fifty, and while possibly only fifteen or twenty do a business of great size, still the competition is keen and the effort to present the best goods in the most attractive packages is widespread.

The stereotyped Extract as well as the stereo-

typed package, are things of the past, and the house that would thrive must keep abreast of the times with novel contents of artistic packages.

Here lies the secret of the success of Lazell, Dalley & Co., and of the other prominent Perfumers.

The present officers of this Company are Mr. Henry Dalley, President; Mr. H. Allen Dalley, Vice-President; Mr. Arthur F. Knowles, Secretary; and Mr. Chas. W. Van Court, Treasurer.

CUMARIN.

A work by Ph. Chuit (Chuit, Naef & Co.¹), and Fr. Boelsing supplies a valuable contribution towards the knowledge of the cumarins alkylised in the benzene nucleus, of which up to the present little was known. In order to arrive at 3-methyl cumarin², they condensed, according to Knevenagels³ method, malonic acid with o-homosalicylic aldehyde, with application of aniline hydrochloride. The resulting product of condensation, 3-methyl cumarin carboxylic acid, forms white needles of the melting point 142 to 143°. On distillation at ordinary pressure it yields 3-methyl cumarin of the boiling point 178° (20 mm. press.); melting point 109 to 110°. This body has a faint odor of cumarin; 3-methyl 1-aceto cumarin forms odorless, faintly yellow crystals of the melting point 125.8 to 126.2°.

Its phenyl hydrazone melts at 168 to 169°, its semicarbazone at 224 to 225°; 3-methyl cumarin carboxylic acid ester is formed during the condensation of the above aldehyde with malonic acid ester, with application of piperidine as condensing agent; odorless, brilliant crystals of the melting point 81°.

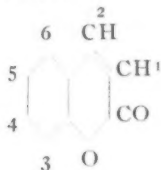
The above-mentioned chemists proceeded in an entirely analogous manner to produce the remaining homocumarins and their derivatives. Contrary to H. Schmidt⁴, who obtained by Perkin's method from m-homosalicylic aldehyde, by heating with

acetic acid anhydride and sodium acetate to 220°, a methyl cumarin melting at 90°, Chuit and Boelsing arrived at two different methylated cumarins. They proved at the same time that Schmidt's preparation was a mixture of two homocumarins, whose formation could be thus explained, that the m-homosalicylic aldehyde used for the condensation was a mixture of two isomerides, methyl phenol-3-methylal-4 and methyl phenol-3-methylal-2. The first aldehyde of the melting point 59° yields on condensation with malonic acid, 4-methyl cumarin-1-carboxylic acid of the melting point 198.8 to 199.8°. The 4-methyl cumarin which can be obtained from it, melts at 125.8° to 126.4°, and has a fairly strong odor of cumarin. The other m-homosalicylic aldehyde, methyl phenol-3-methylal-2, of the melting point 31.5°, condenses with malonic acid to 6-methyl cumarin-1-carboxylic acid of the melting point 162.5 to 163°. The 6-methyl cumarin corresponding to it has the melting point 65 to 65.8°. It possesses only a feeble cumarin odor. The two methyl cumarins produced by the authors according to Perkin's method, show the same melting point, which disproves Schmidt's observation. The 4-methyl cumarin-1-carboxylic acid ester which can be derived from the methyl phenol-3-methylal-4, and which is obtained in a manner analogous to the method described above, forms brilliant leaflets, which melt between 101.5 and 102.5°; 4-methyl-1-aceto cumarin of the melting point 156 to 157° yields an oxime which melts at 224°. The other carboxylic acid ester which is derived from methyl phenol-3-methylal-2, forms brilliant needles of the melting point 122 to 122.5°. 6-methyl-1-aceto cumarin shows the melting point 115°, its oxime that of 214°.

The condensation of p-homosalicylic aldehyde (methyl phenol-4-methylal-3) with malonic acid leads to 5-methyl cumarin carboxylic acid of the melting point 166.8°. Its ester forms odorless, transparent tablets of the melting point 103 to 104°; 5-methyl cumarin has, of all the homocumarins described, the most powerful odor, but it differs slightly in the odor from ordinary cumarin. The latter is more penetrating, but not so persistent as the former. In view of the high price of p-homosalicylic aldehyde, or p-cresol, 5-methyl cumarin appears hardly capable of competing with ordinary cumarin; 5-methyl cumarin boils at 14 mm. pressure at 174°, and melts at 74.6 to 75°. Its acetyl derivative of the melting point 128 to 128.4°, is obtained in a manner analogous to the former;

¹ Bull. Soc. Chim. III., 35 (1906), 76.

² The cumarin formula is based on the designation of Simónis and Wenzel (Berl. Berichte 33 [1905], 2327):—



³ Berl. Berichte 31 (1898), 2585, 2696.
Thesis, Rostock 1897.

semicarbazone melting point 211° ; oxime melting point 219° ; phenyl hydrazone melting point 193 to 194° .

The same authors⁵ have subsequently published the results of their examination of the two above-mentioned m-homosalicylic aldehydes. A separation of these bodies produced, according to the method of Tiemann and Schotten⁶, by the action of chloroform on m-cresol, can be effected by repeated treatment of the aldehyde mixture with small quantities of dilute soda liquor, when only the aldehyde of the melting point 59° is dissolved. Another method of separation is based on the different solubilities of their calcium salts in hot water. The calcium salt of methyl phenol-3-methylal-2 of the melting point 32° dissolves with difficulty, and is precipitated in the form of yellowish crystals, when a hot dilute solution of calcium chloride is added to the hot soda liquor solution of the aldehyde mixture, whilst the salt of the methyl phenol-3-methylal-4 melting at 59° remains in solution in the mother-liquor and only separates out on cooling.

The methyl phenol-3-methylal-4 purified from the calcium salt, melts at 59 to 59.8° , and boils at 219 to 221° (726 mm. pressure). It has a very pleasant odor, reminding of that of pure salicylic aldehyde. Melting point of the oxime 108.5 to 109° ; melting point of the semicarbazone 254 or 272° ; melting point of the phenyl hydrazone 160 to 160.5° . When heated with caustic potash to 220° , it oxidises into m-cresotinic acid (α -m-homosalicylic acid) of the melting point 176° ; its methyl derivative yields with the same reaction also m-cresotinic acid, and on oxidation with potassium permanganate methoxyterephthalic acid of the melting point 277 to 279° . From these results the constitution of the aldehyde is at once apparent. Its isomeride, methylphenol-3-methylal-2 of the melting point 31.4 to 31.9° boils at 728 mm. pressure at 228 to 229.3° . The odor of this body resembles that of salicylic aldehyde. Melting point of the oxime 111 to 112° ; melting point of the semicarbazone 214 or 244° respectively; melting point of the phenyl hydrazone 170.2 to 171.4° . Caustic potash converts it at 220° into β -m-homosalicylic acid of the melting point 168 to 169° . Its methyl ether is converted on oxidation with potassium permanganate into 3-methoxy-o-toluylic acid of the melting point 139° .
—From Schimmel's Report.

⁵ Bull. Soc. Chim. III. 35 (1906), 129.

⁶ Berl. Berichte 11 (1878), 773.

ADVANCE DUTY ON ALMOND MEAL.

The United States General Appraisers have lately rendered a decision as to the admission of Almond Meal, which is of exceeding interest to all American Importers and Manufacturers of Toilet Articles. This product is now assessed at 50 per cent. ad valorem, instead of 25 per cent. as heretofore.

It seems that when the matter was being considered by the Board of Appraisers, only a single witness was examined, and he testified that this material was used as an application for face, hands and feet, but the fact was not brought out that the Almond Meal, as imported, is by no means a finished Toilet Preparation, and that, therefore, it should come in as an unenumerated article, but not as a Toilet Article, under paragraph 70 of the Laws of 1897.

The Importers are protesting vigorously against this decision, and it will not be their fault if it is not reversed by the higher authorities.

NEW COMPANIES INCORPORATED.

The Twill Be Cleaner Manufacturing Co., at Worcester, Mass., to manufacture soaps. Capital, \$30,000. President, Wm. H. Durham; treasurer, H. E. Dodge, Worcester.

The Ozobalm Mfg. & Importing Co., at New York, to manufacture drugs, chemicals, etc. Capital, \$100,000. Incorporators:—H. Herzfeld, F. C. Dallmer, F. S. Koller, M. D., New York City.

The Friend Soap Co., at Somerville, Mass. Capital, \$200,000. President, F. C. Friend, Somerville; Treasurer and Clerk, C. H. Whitney, Concord Junction.

The Columbus Crystal Co., at Newark, N. J., to manufacture soap and chemicals of all kinds. Capital, \$10,000. Incorporators:—G. A. Martin, Orange; S. Haperin, J. Benn, Newark.

McKinney & Co., at New York, to manufacture baking powder, soap, toilet articles, etc. Capital, \$75,000. Incorporators:—E. P. McKinney, G. F. Lord, E. McKinney, A. A. Kilmer, Binghamton, N. Y.; F. W. Wilson, Scranton, Pa.

THE ORIGINAL EAU DE COLOGNE.

By HERR C. A. FARINA, Cologne, Germany.

We boast of tremendous progress in Perfumery making, and yet with all our scientific advancement who has been able to surpass or even equal the original Eau de Cologne, made over 200 years ago in the famous German city from which this Toilet Water took its name?

A single name has been wonderfully interwoven with that "Koelnisches Wasser," or "Eau de Cologne" as it is more popularly known, and that is Johann Maria Farina.

The original Farina, the originator of this product, was christened Giovanni Maria Farina, having been born an Italian at Santa Maria Magiore in the valley of Vegezza, district d'Ossola, more than two centuries ago, in 1685. When he emigrated to Cologne and became naturalized as a German, he altered his first name to the corresponding Johann, and he must have begun very early to manufacture his Eau de Cologne, because there are records still preserved by the house showing that he was in business so early as 1709 "opposite the Julich's Place." In fact, this location became an additional identification of the original Eau de Cologne, as there always appeared upon the labels, "gegeneuber dem Julich's Platz."

Originally the first Farina had a Bazaar in which he sold jewelry, trinkets and perfumery, but when his Toilet Water attained great popularity, he found it so profitable that he dropped all else and devoted his entire energies to the manufacture and sale of the Eau de Cologne.

The records have been so well kept that we know that in 1726 Johann Maria sent for his brother, John Baptist, who became his partner, but died some 6 years later, when the founder of the business sent for his nephew who happened to bear the same name and admitted him to partnership.

The great original Farina never married, dying in 1766 at the advanced age of 81. His nephew lived until 1792, leaving three sons, John Baptist, John Maria and Charles Antony Hieronymus. Of course, the second son had been named so as to continue as the head of the house, but, unfortunately, he died first and for a long time there was no Johann Maria in the firm. The

two brothers, however, named their eldest sons Johann Maria and they eventually succeeded to the ownership of the business. Today, another Johann Maria, who is the sixth of the line, heads this concern, although around him no less than sixty other factories of Eau de Cologne have grown up, all bearing the name "Farina."

There is no fairy-tale related concerning the origin of the receipt for making Eau de Cologne. There is a romantic tale of a famous Hungarian Water which runs back to the fourteenth century, to the effect that an angel gave the formula to the Queen of Hungary and it made her so beautiful that when the King of Poland first saw her, he fell in love with her and asked for her hand in marriage.

As is the case with all popular articles, Eau de Cologne was soon widely imitated and counterfeited. The earliest imitators claimed to have obtained their formula from Paul Feminis, of Cologne.

By a strange coincidence, Dr. Chadwick, of Boston, while searching in the library of that city, some thirty years ago, found an advertising circular, entitled, "Virtus et Effets de l'excellente Eau admirable, ou Eau de Cologne, approuvée par la Faculté de Medecine le 13 Janvier, 1727." This circular described the preparation as having been invented by an Italian, Signor Paul Feminis, of Cologne, and as possessing the power of restoring the parts of the body attacked by any diseases, or predisposition to the same, and recommended it in cases of apoplexy, paralysis, palpitation, obstructions of the liver, spleen, and kidneys, migraine, sore eyes, ringing in the ears, toothache, gout, burns, bruises, etc. Not a word is said of this preparation as a perfume.

Dr. Chadwick thought that Feminis was the original inventor, and that Farina imitated his Eau de Cologne, but the evidence seems to point in a different direction. It appears more than probable that there were two Eaux de Cologne, one, a quack medicine made by Feminis, the other, a toilet water made by Farina. Success came to the Toilet Water, not to the Nostrum, for the latter has long been forgotten, and the

former has been imitated, even to the name of the manufacturer and location of factory, almost endlessly.

The name Farina became a valuable asset for the manufacture of Eau de Cologne, and several families living in other German cities removed to Cologne about 1750 so as to embark in this business and use the name of the city legitimately. In fact, some enterprising individuals not fortunate enough to bear the name Farina went to Italy and looked up some peasant with this name, taking him into nominal partnership and actually paying a small sum for the use of his name, so that they, too, might stamp this magic spell on the label of their Cologne. Lawsuits innumerable have been entered in Paris and Germany in order to protect this widely-used name, and the original house has well held its ground for more than twenty decades.

When the English poet Coleridge was in Cologne, he was not very favorably impressed with that city, as witness this verse:

"Mister Mum's Rudesheimer
And the Church of St. Geryon
Are the two things alone
That deserve to be known
In that body and soul-stinking town of
Cologne."

It is a living paradox that the town famous the world over for its Perfumed "Eau" is derided by the poet for "Rags and hags and hideous wenches," and that he says, "I counted two-and-seventy stench, all well defined, and several stinks."

Perhaps his liver was out of order or he could not get any of the Opium so necessary to his happiness.

The modern city is by no means what Coleridge would have us believe. And its Cathedral and the House of Farina are equally famous.

Any number of formulae have been published for the manufacture of Eau de Cologne, but not one of them has reached the perfection of the original. It is certain that none save the finest spirits are used, and that infinite pains are exercised in the compounding. The essential oils come from certain firms in Southern France, who supply Farina exclusively.

At certain stated periods, the head of the house himself goes into a "special secret cham-

ber," where he makes his compound according to the "sacred" formula. This mixture is added to the spirit in great casks, where it matures for months before it is bottled.

When the Eau de Cologne is poured from the casks, a residue of bluish-gray mud remain, being the sediment from the essential oils and other ingredients used. This "mud" is bottled and given away to the poor of the city, who believe it to be most efficacious when applied to rheumatic joints.

The word Cologne has become so famous, as a matter of fact, that in the United States, especially among the populace, any toilet water or even Extract is called Cologne, though the original product is sold only to a limited extent in America.

There are excellent prospects that one of the Leading Perfumers of the country, Mr. F. F. Ingram (of F. F. Ingram & Co., Detroit), will be sent to the next U. S. Congress. It would be an excellent thing for the Manufacturing Perfumers' Association, in which organization Mr. Ingram is an active spirit, to have such a representative at Washington, for Mr. Ingram is a leading advocate of National Ownership of Public Utilities, the Municipal Ownership of Lighting, Railways, &c., and a strenuous spokesman for placing our Postal Service on a plane equal to that of Europe.

It will be remembered by those who attended the last Perfumers' Convention in New York that Mr. Ingram was called upon frequently to express his opinion as an expert on matters of public service, as well as subjects directly connected with the manufacture of Perfumery. His long record in business and as a patriotic citizen entitle Mr. Ingram to the honor which Detroit is about to offer him.

The failure is announced of H. V. Omo & Co., of Chicago. The liabilities are not very high, and while no statement of assets is yet possible, it is anticipated that a fair settlement will be made through The Royal Trust Co., which has been appointed Temporary Receiver.

Are you thinking about starting the manufacture of Perfumed Soaps as a new department of your thriving business? If you want the advice of experts in Machinery for Soap-Making, the proper firm to interview is Messrs. Houchin & Huber, of Brooklyn.

OIL OF CEDAR LEAF.

By EARL AYER, St. Albans, Vt.

Speak of Oil of Cedar Leaf, there is confusion worse confounded. It is unfortunate that the oils distilled from the leaves and twigs of the Red Cedar (*Juniperus virginiana*) and of the White Cedar (*Thuja occidentalis*) are both indiscriminately called "Oil of Cedar," for they are quite different in character and value. In this place we wish to discuss chiefly the product coming from the White Cedar (*Thuja occidentalis*) which grows in Pennsylvania and States north thereof, often in so-called "cedar swamps."

The plant was analyzed by A. Kawalier, of Vienna, who found besides the volatile oil a bitter principle which he called Pinipicrin, $C_{22}H_{18}O_{11}$, sugar, gelatinous matter, wax, resin, and tannic acid. According to Huebschmann the leaves and twigs of *Thuja occidentalis* yield also one per cent. of an essential oil of sharp, camphor-like taste, sp. gr. 0.925, boiling point 190-206 C., easily soluble in alcohol.

The distilling of the oil from the Cedar Leaf is a process that has been practised in various ways, especially in the northern and eastern part of Vermont for many years.

The success of the distillation and the quality of the oil depends upon several elements, not the least of which is the experience of the distiller and the good faith with which he works.

To secure the "brush" out of which the oil is to be distilled it has been found wisest to select scrub cedars growing from one to ten feet in height. These are cut off close to the ground, and then holding the butt of the tree upward in the left hand, with several swift strokes of a keen knife the twigs and leaves are shorn away.

Experience has proved that the best knife for this process is a scythe-blade, some 18 inches long with a handle covering 6 inches, thus giving a 12-inch cutting surface. This knife must be kept as sharp as a razor to do the work effectively and speedily.

The best trees are the White Cedars growing on high ground, well scattered so that the sun reaches all sides of the trees. Those growing too thickly and in swamps are far less valuable.

After the twigs have been cut from the trees

they are gathered in wagons and taken to the stills, which vary in capacity and completeness according to the progressiveness of the owners.

The primitive stills used by many distillers in scattered settlements consist of long pans about 8 feet in length and 3 feet in width with a wooden cover. Water is put into these pans under which a fire is built, and the rising steam passes through a pipe into the bottom of the still, which is generally a square or round wooden tank perhaps 6 feet wide, 6 feet long and 6 feet high, or if circular, 6 feet in diameter and 6 feet high. Upon this tank a wooden cover is clamped down so as to make it steam-tight.

One of the secret arts, and most important steps in the process, is the packing of the twigs and leaves in the still. They are placed here after being cut 10 to 12 inches long, in such a way as to extract the largest possible amount of oil, being stamped down and packed, while wet by the steam, as close as possible. When filled, this tank is closed steam-tight and the steam passes rapidly through the pipe up into the bottom of the tank, being forced through the thick mass of cedar twigs. At the top of the still is a 6-inch tapering pipe passing into a 2-inch pipe, and then into a condensing coil which is in a box of running water. The steam laden with the oil passing into the coil is there condensed and flows out into the receiver, which is generally a common tin pail. Here the oil is skimmed from the surface, as it forms, the water on account of its greater specific gravity going to the bottom of the pail and the oil floating on top.

In large distilleries a boiler takes the place of the large flat pan, thus gaining a greater pressure for the steam and hastening the process while it increases the yield of oil. From 2½ to 4 hours' time is generally consumed in extracting all the oil from a single packing of the tank. These twigs have now formed almost a solid oleaginous mass, which should be removed while still warm, otherwise a pick-ax is necessary to take it out. As a rule, only one such operation takes place a day.

Various extractions show that the yield of oil

is from $\frac{3}{4}\%$ to 1%. That is, there are instances of 20 tons of twigs and leaves having produced 231 lbs. of oil. One of the record yields is 31 lbs. of oil from a single packing of a tank 6 ft. in diameter and 6 ft. high. This was an especially fine quality of cedar gathered at the best time of the year and distilled by a man with years of experience behind him.

This too was at the best season of the year, when the foliage was thickest, with the little cells of oil drawn out by the hot Summer sun.

While distilling is now in progress, beginning so early as May, the Cedars are at their best from July onward, the process continuing until October or November. Nature gathers the oil in the little sacs on the leaves and smaller twigs, and the steam extracts the oil, which is of considerable medicinal value.

Oil of Cedar Leaf is sometimes as transparent as pure water, while at other times it is much darker in color. This variation in shade is due to the varying character of the soil on which the Cedar grows. It has been proved that Cedars growing on rocky soil, with scarcely any loam, produce the clearest oil.

In some sections Oil of Cedar Leaf is merely a by-product with some of the farmers, who distill it in the Autumn after their harvesting has been completed, and continue this work until the cold weather, snow and ice compel them to cease operations. The cold weather does not, however, affect the amount of oil yielded by the Cedar Leaf, but prevents working in the woods.

The Oil of Cedar Leaf is used chiefly now as an important ingredient in liniments and ointments, though some have made use of it internally in cases of intermittent fever, cough, scurvy and rheumatism. Some have tried it for cancer. On account of the uses of Oil of Cedar Leaf internally and for application to open sores it is especially necessary that it should be pure.

Unfortunately much of the commercial article is adulterated, with turpentine, or even more crudely, with kerosene, but it is claimed that this adulteration takes place after it leaves the hands of the producers.

It is difficult to estimate the exact annual production, as it varies from year to year, but this is a product that ought to be always obtainable in its pristine purity.

EUROPEAN CORRESPONDENCE.

[The news appearing under this heading from month to month is the latest possible authentic reports from the various floral culture centers or markets. Just because these are reports taken on the spot, reflecting actual conditions which are constantly changing, apparent contradictions are due to altered conditions, and must be so considered.—Ed.]

ASUNCION, PARAGUAY.—The demand for Oil of Petit Grain is acute, but the supply is very limited. This is due to several causes. The revolutions hereabout have interfered materially with distillers, especially as the business has not been well organized. The Orange groves are not well cared for and contractors are far behind in their deliveries. There have been delays all around, and as a consequence shipments are few and far between. Orders placed six months ago are still undelivered, and the worst of it is that no one knows when delivery will be possible. A few of the broader merchants understand the importance of this material for export, but it is most difficult to make close contracts with the growers and distillers. As every one knows, Oil of Petit Grain is made of the leaves, twigs and small fruit of the wild orange trees, and lack of care of the trees is one of the chief causes in diminution of supply. Whether there will be any improvement in conditions here no one can well tell, but the exporters are most anxious to remedy defects and fill orders promptly.

AMSTERDAM, HOLLAND.—The outlook for the new crop of Carawayseed is not good. In the principal district, North Holland, which produces the best Carawayseed suitable for distillation, the crop is considered almost an utter failure. A crop is expected from Zeeland and Groningen, which, together, normally produce from $\frac{1}{3}$ to $\frac{2}{5}$ of the entire output, but though the result here be good, the area under cultivation is less than formerly, and the amount produced must be smaller even than last year. The entire output last year was but 86,000 bags, and as this crop had been preceded by the large crop of 1904, 140,000 bags, the supply was fairly met. Now, however, the stock on hand is very limited. Speculators are trying to depress the market in order to cover themselves, but much higher prices are to be looked for.

Clove Oil has naturally risen considerably as a consequence of the increase in the price of cloves, and a further rise is imminent.

MESSINA, ITALY.—All of the Citrus oils continue more than firm in price. There has been another

rise in the price of Oil of Lemon, and Oil of Bergamot is being held in a few strong hands, so there is no prospect of a decline in price. In fact, the outlook is for higher prices, as shown by the offer of some houses to guarantee purchasers against any possible decline.

KAZANLIK, BULGARIA.—The distillation of Otto of Roses has begun under the most favorable possible weather conditions, with plenty of rain and wind from the right quarter. Already more than fourteen thousand native stills are in full operation, besides the ten foreign steam alembics. About a million pounds of rose leaves are distilled every day, as the crop must be promptly gathered, once it has begun. The harvest generally lasts twenty-five days, though if the conditions of the weather now prevalent continue the prospects are that it may last ten days longer. The question of the steam-alembics has been agitated for some five years past. Opinions differ as to their practical value. Some hold that the Otto produced by them is inferior in quality, and that the cost of the equipment is too great when the short time of crop is considered. These details must, however, be settled practically, and machinery may win in the end.

While the buds first appearing were less numerous than usual, the later yield is far better than was expected, and with the present propitious weather it looks as if the yield of Otto will be both large and of fine quality. The roses are opening gradually, as they should; they are being gathered just at the right moment of full maturity, and as a consequence the Otto, when distilled, proves rich in aroma. Barring accident, we shall have a "banner" crop, for now the second crucial stage of the budding is successfully passed, the harvest has begun ten days earlier than usual, and we shall have a steady, full yield, unless the sun comes out too strong and the rains cease.

CANNES, FRANCE.—The negotiations between the Growers of Orange Flowers and the Manufacturers of Essential Oils have been concluded by the acceptance of the terms offered by the Growers. The result is that the Manufacturers are talking about the future price of pure Oil of Neroli, and they are agreed that it will be between 800 and 1,000 francs per kilo, making the price from \$80.00 to \$90.00 a pound. Many dealers are buying up all they can of old Oil of Neroli so as to provide for their future needs. Eighty dollars a pound will be the minimum price at which Pure Oil of Neroli can be sold from the present crop of Orange Flowers.

LONDON, ENGLAND.—Consumers here are very much aroused over the excessive adulteration of Oil of Cassia coming to this market. Analyses have been made of a number of different shipments of this product, marked 75% to 80% Cinnamic Aldehyde, found to be from 10% to 12% below test. Under these conditions purchasers are very shy about concluding any contracts, looking for the pure Oil, which seems to be almost unobtainable.

In the death of Mr. Charles Seaton, who has been connected, for more than thirty years, with the firm of E. R. Squibb & Sons, the drug trade loses one of its most capable and genial buyers. He enjoyed not only the confidence of the house with which he worked so long and faithfully, but the general respect of all with whom he had any dealings and his death will be generally regretted.

The European tide begins to flow. Mr. Walter Hathaway, of Colgate & Co., lately departed for that bourne of many Americans, looking over the foreign market.

Mr. Christian Euler, one of the New York representatives of A. Chiris, has also sailed for "the other side."

Mr. E. V. Killeen and wife sailed for Europe, June 7th. This genial representative of George Lueders & Co. has earned the delightful vacation which his numerous friends wish him.

The well-known and long-established Essential Oil manufactory of Jeancard Fils, Cannes, France, has been incorporated, with largely increased capital. This progressive step augurs well for the future of this reliable house, which will be known henceforth as Jeancard Fils & Company.

The box is not the Perfume, but an artistic package catches the eye, and often is the first step towards making a sale. You can hardly blame the casual customer for not giving a second thought to a slovenly or inappropriate package. Why go to Europe for boxes and labels, when you can get them better here from the Buedingen Box and Lithograph Company?

PROBLEMS OF SYNTHETIC PRODUCTS.

By DR. HUBERT GRUNENBERG, New York.

Every discriminating perfumer has noted during his experience that the Synthetic Products called by one and the same name are very different in value. They will also admit that manufacturers do not always send forth products of uniform purity and strength. In most cases the manufacturing chemist is to blame for this, but sometimes the fault is less his than the effect of peculiar circumstances. It must be remembered that the chemistry of Synthetic Perfumes is a brand new science, based upon the conclusions of a few savants only.

The effects of these compounds on the olfactory nerves alone interest the perfumer; he does not care whether the product be chemically pure or not if it only possess sufficient strength and character, and be free from any other incongruous odor; but every perfumer knows only too well how ambiguous and uncertain most tests are for ascertaining the strength of any odorous compound. The usual method is to make a 1% solution in alcohol. This very primitive method fails utterly if the compound be a mixture of different products influencing the olfactory nerves variously.

The scientific perfumer knows that each true or olifine terpene possesses the highest grade of odor at a certain temperature different for each one. He also knows that every terpene requires a certain definite degree of dilution to bring out the full effect of the odor. This degree of dilution is not the same for all odorous compounds, as most incompetent perfumers seem to believe.

The apparent superiority of some French perfumes is due chiefly to the painstaking study of all these particular circumstances which influence the character and strength of combinations of scents.

Of course, for the perfumer the investigating power of his sense of smell is the practical method of determining the purity and strength of any odor, but the nose can never replace analytical examination, as all characterless and indefinite odors escape the sense of smell. The nose is too easily imposed upon by deceptive odors which do not appear at first, and only come forth when the dominating original odor gradually evaporates. Thus a whole scale of related

odors is produced, until finally the last permanent odor has lost all similarity to the first. This scale of odors between these two limits may be termed "the Scale of Intermediate Scents." Here lies the first chief reason for the varying value of synthetic odorous products.

The purifying or refining of artificial perfume materials is a science in itself. Only a synthetic chemist understands the vicissitudes and labor connected with the purification of the primary products; refining is much more important for the manufacturer of synthetic perfumes than for the chemist who exploits synthetic drugs. The presence of 1/10% of an impurity in a synthetic perfume can be detected, and will make the entire product unfit for use; while in synthetic drugs additions of 1 to 3% of indifferent materials do not alter the value of the compound appreciably.

Take, for instance, Synthetic Oil of Jasmin, whose principal constituents are: Benzyl-Acetate, Methyl Anthranilate and Indol (besides natural Jasmin, Linalool and Linalyl Acetate). Benzyl Acetate is made from commercial Benzyl-Chloride and Sodium-Acetate that are boiled together in Glacial Acetic Acid solution for several hours. But the reaction is never complete, a part of the Benzyl-Chloride always remains unaltered and can only be eliminated by repeated fractional distillation. Unfortunately a very small percentage of Benzyl-Chloride can be discovered by the crude irritating odor of the Benzyl-Acetate. The only way out is to change the method of manufacturing. Benzyl-Acetate can also be made from Benzaldehyde, Zincdust and Glacial Acetic Acid.

The customer frequently demands a cheap product, therefore the manufacturer has the choice between a purified but somewhat crude compound and an adulterated product of purer odor. It is the same with Methyl-Anthranilate and Indol. Methyl-Anthranilate can be produced very pure by the oxidation of Indigo by means of Caustic Potash and Manganese-Dioxide, but this expensive method is very seldom used. Most manufacturers reduce either Ortho-Nitro-Benzoic acid or treat Phthalimide with Bromine and Caustic Potash. The Methyl-Ether is then

obtained from the acid in the ordinary way. The two last methods give good results, but the product is almost always adulterated with Isatin, Isatoic acid, Phthalimide, Indoxyl, etc., that decompose very easily and change the odor and the color of the Methyl-Ether.

Indol can be made in some dozen different ways. The cheapest way is its production from decayed Albumen that contains sometimes 10% of Indol. The impure Indol is then separated from the numerous other Nitrogen compounds by dissolving its Picrate in Petrol-Ether, from which it crystallizes in small red needles. But at the same time the Methyl compound of Indol, the "Icatol," is produced, and this abominable-smelling product possesses almost the same reactions as Indol, and can only be separated from it with the greatest difficulty. The purest Indol is produced by the treatment of Dichlor-Ether with aniline, but this method gives only minimal results, and is very expensive. Thus the difference in price of Indol is easily explained. Commercial impure Indol can be made for less than \$10.00 per pound, while the chemically pure product is sold for \$30.00 and more per ounce.

Another instance, the Synthetic Oil of Rose is a mixture of lævo- and dextro- Citronellol, Geraniol, Phenyl-Ethyl-Alcohol, Geranyl-Acetate, and some higher Paraffin-Aldehydes like Octyl, Nonyl and Decyl-Aldehyde. The Citronellol is always made from Geranium Oil that contains sometimes more than 20% of it, but the separation is a very difficult task. Usually the Geranium Oil is first treated with metallic Sodium and then with Phthalic Anhydride. The Phthalates thus formed are dissolved in weak Soda solution, and separated from the Tiglate and Caprate-Ethers and Terpenes on the top of the liquid, but this mixture of Citronellyl and Geranyl-Phthalates always contains a small part of Terpenes, too, that remains, if the Ethers are saponified; only a repeated fractional distillation can eliminate them. But the greatest difficulty is caused by the separation of Geraniol and Citronellol. All methods that have been tried do not give any satisfying results. The boiling points are too close together, Calcium-Chloride crystallizes with a part of the Citronellol, too, Formic Acid also converts a part of the Geraneol into Formiate Sodium-Salicylate dissolves the two Alcohols, and Barium Sulfan-

ilate is apt to combine with Citronellol and Geraniol in the same crystalline form. Only the optical rotatory activity could serve to determine the purity of the Citronellol, or the Geranium Citronellol would be a mixture of two identical compounds with opposite activity. The Phenyl Ethyl-Alcohol is mostly prepared from the Bulgarian Otto of Roses, but sometimes it is made synthetically; in that case it is very often adulterated with the Isomeric Phenyl Methyl Carbinol, that can be produced very easily by reductions of Acetophenemers. The odor of the two alcohols is similar, but the Carbinol smells more like Benzaldehyde Octyl, Nonyl and Decyl-Aldehydes are produced by dry distillation of the Barium-Compound of the corresponding acids with the equivalent—Barium Formiates. The results are very small, besides that the Aldehydes thus formed contain other concentrated Aldehydes and Ketones, that dissolve in Bisulphite of Soda Solution in the same manner as the Paraffin Aldehydes, on account of their peculiar odor and their inclination to oxydize these adulterations may alter the value of the Oil of Rose, if mixed with it.

The last instance selected is the "Ionone." Every Chemist and Perfumer knows that this valuable synthetic product is a derivative of Citral from Oil of Lemongrass. The usual method of production is the condensation of Citral from Oil of Lemongrass. The usual kalic base. The Aldehyde Citral and the Ketone Acetone combine to an unsaturated Ketone, "Pseudo-Ionone," under elimination by water. This aliphatic "Pseudo-Ionone" is then converted by acids into a cyclic Isomer "Ionone," but the best Citral always contains two and more per cent. of Methylheptenone that will combine with Acetone also. Besides that, Acetone alone is condensed by Alkalis and yields Isophorone and Mesithyloxide that will also combine with the Citral present. Therefore three or four reactions occur at the same time with the result that the final product contains at least five or six different bodies.

Repeated fractional distillation can eliminate a part of them, while the rest must be separated by dissolving the impure Pseudo Ionone in Bisulphite of Soda Solution. Most chemists believe that an equivalent addition of Caustic Soda to the Pseudo Ionone thus dissolved will only liber-

ate this Ketone, as Citral, Methylheptenone, etc., are converted in stable Sulfonic Acids. But experience shows that traces of Citral, Methylheptenone, Mesityloxid, Isophorone, etc., can be found in the separated Ketone. When this impure Pseudo Ionone is inverted by condensed acids, Cymol-Derivation besides Ionone are produced.

It is very difficult to eliminate this Phenol, whose pleasant but too strong and penetrating odor covers the woody flavor of the pure Ionone, but the percentage of really converted (cyclic) Ionone is much more important in the final product. We know that the longer time the acids remain together with the aliphatic Ketone, the more Ionone is formed, but the resinification grows at the same time and can reach a very high percentage. Therefore the manufacturers of cheap Ionone interrupt the acid reaction after a short time, and separate the mixture of Ionone, Pseudo-Ionone and Ionone-Hydrate by means of ice water and Ether from the acid. Of course, this kind of Ionone contains sometimes not more than 15 to 20% of the real Ketone, but it possesses the Ionone odor, as the odor of Pseudo-Ionone is very weak and indefinite. The purest absolutely colorless Ionone is produced from Cyclo Citral, but this method is very expensive, as 100 parts of chemically pure Citral yield after condensation with Aniline and inversion by means of Oxalic Acid only 6 to 10 parts of pure Cyclo-Citral. Almost the same purity can be produced by the newest method, whereby the aliphatic Ketone is combined with hydrobromic acid and becomes cyclic at once, but the saponification is a very difficult task, and does not give very encouraging results.

We can draw some conclusions from these facts. We have to suppose that the manufacturer of synthetic raw materials for perfumes delivers his goods at the grade of purity which he can afford to do. If his customer demand a cheaper product, he is morally compelled to tell him that either purity or strength, or the two together, must suffer. Some articles cannot be made cheaper so long as the methods of purifying and refining are not general and simple, but chiefly individual and complicated. If America is the country of adulteration in every line of chemical products, the manufacturer and seller is less to blame than the customer, who asks

for cheap compounds, and, of course, receives substitutes and makeshifts instead of the real material that he requires.

Is there a novel source of Perfume in insects? Many American children have caught what they call "Cologne bugs," which give forth an odor not unpleasant. It is reported from Australia that a musk-scented gnat has been discovered in that land of wonderful animals. Prof. Tryon, of the Brisbane Museum, has classified these gnats as belonging to the order Hemiptera, class Reduviidae, genus *Amulius* (Stol.)

In Farini's book, "Through the Kalahari Desert," is an interesting tale of a similar discovery of Perfume-insects. He states:

"Three days' easy going brought us to Ghanze without any notable incident. As we drove to the water, the fore-wheel of my wagon crashed into a bush, which at once gave out a powerful and delicious perfume. Jumping down to examine the cause, I plucked some leaves, but found they were scentless, as was also the stem of the plant. I could not make out where the pleasant odor came from until I touched a small beetle, when out came a puff stronger than ever. The little bug was an animated perfumery store, emitting the delicious scent whenever disturbed. I caught three of them, and put them in a perforated box, in which they lived for a week, the movement of the wagon affecting them sufficiently to make them give up their fragrance in such quantities as to keep the wagon perfumed like a garden. When they died, the scent died with them."

These insects were discovered in that wilderness lying between Demara Land and Khamas Land, but the reliability of this traveller is beyond question. Will not some original genius soon find a method of extracting the perfume from these insects wherever found?

The latest inventor of a "New Perfume" is Gabriel d'Annunzio, the famous poet, novelist and dramatist. It is reported that he has combined two odors of the "Magnolia" and "Heliotrope" order, calling his new compound "Aqua Nunzio." It is claimed that this odor is most "overpowering in sweetness," and if so, possibly this many-sided Italian genius will have added one more laurel to the brow of the man who caught the soul of the greatest Italian actress of modern times.

THE SOAP BOOK.

(MODERN SOAPS, CANDLES AND GLYCERIN BY LEE-
BERT LLOYD LAMBORN: D. VAN
NOSTRAND Co.)

The Soap Book is out, and it is as complete as was promised. Here is a full presentation of the accumulation of knowledge on the subject of soaps and soap-making that can not fail to interest even the expert, for no one can know too much about any subject, and the theories current are of considerable value to the practical man.

This work is, however, more than mere theory. It sums up the practical experience of soap and candle-makers, especially during the last hundred years, in which period more progress has been made than in all previous centuries combined.

The author has gone down to the roots of the matter, explaining in detail not only what materials are used, and whence they come, but how they are made and in what combination they have proved most valuable to manufacturers.

In the history of soap-making Mr. Lamborn shows how what was once as necessary a domestic duty as washing the clothing became one of the largest of modern industries, chiefly through scientific discoveries, which began with the discovery of a practical method of making soda-ash from salt by Le Blanc in 1791.

Artificial alkali was first used in the manufacture of soap in England less than a hundred years ago, in 1823, by James Muspratt. It became a most important product in England, and it was only with the invention of the ammonia process of producing alkali that manufacturing of this important material became more general. Since 1881 it has increased tremendously in the United States.

All of the facts concerning tallow and the other fatty substances, oils, etc., used in the manufacture of soaps are presented fully and scientifically. The question of saponification and how, when and why it takes place with the different materials is discussed at length and in full detail.

The mechanical side is treated practically, covering such matters as the location of the factory, its erection with an eye to economy in handling of the product, as well as the machinery which is necessary for the manufacture of laundry and toilet soaps.

The chief characteristic of this work is its thoroughness, and the completeness with which every detail is covered is astonishing. It is espe-

cially full in the matter of manipulation of the product, and all the processes to which soap stock is subjected. The reader may learn all he will about the chipping, boiling, and milling of soap, and even the later treatment.

There are chapters dealing with the perfuming of soap and the making of medicated soaps of all kinds.

Full details are given as to the essential oils used in compounding the perfuming products, showing what adulterations are to be expected as well as the characteristics of the pure materials which always give right results. Here is the explanation not only of the methods of perfuming soaps, but the great principles which guide the compounder of the perfumes as well as the soap-maker. He shows how perfume is used either to mask the use of inferior stock or to harmonize agreeably with the natural odor. In that made from better stock for toilet purposes perfume is used chiefly to increase the attractiveness of the product and to enhance the pleasure in using it. The price of the soap, it is stated, determines the quality of the perfume used, but there are exceptions, and some clever manufacturers have succeeded in making available what was considered useless a few years ago. It is also stated that the proportion of perfume mixtures is from 8 to 16 ounces to 100 pounds of soap.

It is applied to the soap either when it has been reduced to laminae, or if the perfume be an expensive one it is sometimes mixed with a vehicle like pure vaseline, and then added to the mass in the mill.

A method of perfuming floating soap is given, as well as the process of coloring all soaps.

There are over two hundred illustrations in the thick volume, from the primitive farm-leaching apparatus to the most complicated of modern milling machines.

It is the story of soap in its entirety, one that will interest even the experienced manufacturer of soaps, because he will see something that he did not know about his own business.

Don't stop at the Stopper! The head of the bottle often sells the goods in it just as the head of a man does. The package is an essential element in the selling of Perfume or Toilet Article. Consult I. Springer & Co., New York, when you want any of these goods. They have a full, tasty, novel line.

ON THE SCENT.

By MR. S. SENCE.

There have been some changes in the management of Joseph Middleby, Jr., inc., of Boston. Messrs. R. L. Remnitz and A. H. Allen sever their connection with this house, being succeeded by Mr. Arthur T. Dooley as General Manager, and Mr. Wm. S. Olmstead as Treasurer.

The many friends of Mr. Alexander A. Lemercier, connected with the Larkin Company, Buffalo, will be pleased to learn that he is enjoying better health and has left Saranac Lake for Colorado to fully recuperate.

The annual Convention of the National Confectioners' Association of the United States will be held at the Manhattan Beach Hotel, Manhattan Beach, N. Y., on July 11th, 12th and 13th. The members are looking forward to a good time and a profitable meeting.

The right spirit makes the man—it also makes the Perfume. If you want Chemically Pure and Odorless Spirits, where can you get them so well as from James A. Webb & Son?

Messrs. E. A. Weber & Co. (Chicago Branch of Ungerer & Co.) have lately removed to more commodious quarters at 101 East Kinzie St., Chicago. There may be found a complete line of the finest and purest Essential Oils, Talc, Caustic Soda and all requisites for Perfumer and Soap-Maker.

Mr. A. M. Todd, the chief American authority on Oil of Peppermint, of Kalamazoo, Mich., has lately returned from an extended trip abroad, going as far as Egypt. He has brought back with him some valuable remains of that ancient civilization, presenting these to the Kalamazoo Public Library that its numerous students may be benefited by studying them. Those who know Mr. Todd have long been aware of the breadth of his interests.

Every one is talking Denatured Alcohol, wondering what it will be applied to now that the President has signed the bill. The consumption abroad has been very, very great. During the ten years from 1894 to 1904 in France alone the consumption

for industrial purposes has increased from 2,657,556 gallons to 9,318,342 gallons. If that be the case in France it is most difficult to estimate how many millions of gallons will be used in the United States after January 1st next. The methods of denaturizing will prove of interest, because few in this country know much about it. Here is the German system.

1. Complete denaturization of alcohol by the German system is accomplished by the addition to every 100 liters (26½ gallons) of spirits: (a) Two and one-half liters of the "standard denaturizer," made of 4 parts of wood alcohol, 1 part of pyridin (a nitrogenous base obtained by distilling bone oil or coal tar), with the addition of 50 grams to each liter of oil of lavender or rosemary; (b) one and one-fourth liters of the above "standard" and 2 liters of benzol, with every 100 liters of alcohol.

Of alcohol thus completely denaturized there was used in Germany during the campaign year 1903-4, 931,406 hectoliters denaturized by process (a), as described above, and 52,764 hectoliters which had been denaturized by process (b). This made a total of 26,080,505 gallons of wholly denaturized spirits used during the year for heating, lighting, and various processes of manufacture.

2. Incomplete denaturizing, *i. e.*, sufficient to prevent alcohol from being drunk, but not to disqualify it from use for various special purposes for which the wholly denaturized spirits would be unavailable, is accomplished by several methods, as follows: The quantity and nature of each substance given being the prescribed dose for each 100 liters (26½ gallons) of spirits. (c) Five liters of wood alcohol or one-half liter of pyridin; (d) 20 liters of solution of shellac, containing 1 part gum to 2 parts alcohol of 90 per cent. purity (alcohol for the manufacture of celluloid and pegamoid is denaturized); (e) by the addition of 1 kilogram camphor or 2 liters oil of turpentine, or one-half liter benzol to each 100 liters of spirits.

Alcohol to be used in the manufacture of ethers, aldehyde, agarcin; white lead, brom-silver, gelatins, photographic papers and plates, electrode plates, collodion, salicylic acid and salts, aniline chemistry, and a great number of other purposes, is denaturized by the addition of (f) 10 liters sulphuric ether, or 1 liter of benzol, or one-half liter oil of turpentine, or 0.025 liter of animal oil.

For the manufacture of varnishes and inks alcohol is denaturized by the addition of oil of turpentine or animal oil, and, for the production of

soda soaps, by the addition of 1 kilogram of castor oil. Alcohol for the production of lanolin is prepared by adding 5 liters of benzine to each hectoliter of spirits.

The price of denaturized alcohol varies in the different states and provinces of the Empire in accordance with the yield and consequent market price of potatoes, grain, and other materials. At the present time alcohol of 95 per cent. purity, which is the quality ordinarily used in Germany for burning, sells at wholesale from 28 to 29 pfennig (6.67 to 6.9 cents) per liter (1.06 quarts), and at retail for 33 pfennig (7.85 cents) per liter.

THE PRODUCTION OF TALC IN THE UNITED STATES.

According to the annual report of the U. S. Geological Survey the production of talc during 1905 was greater than in any other year except 1902.

The production of all varieties of talc in 1905 amounted to 96,634 short tons, valued at \$1,082,062, as compared with 91,189 short tons valued at \$940,731 in 1904, an increase of 5,445 short tons in quantity and of \$141,331 in value. Following is an abstract of this report:

Talc is found in nearly every State along the Atlantic slope, varying from pure, foliated talc to harder steatite. Many of these deposits are very favorably located for transportation, so that it has been possible to work profitably many of the compact varieties of talc and soapstone in this section of the country. In the western States talc has been found in greater or less quantity at many localities, but on account of their great distances from railroad transportation only one or two of the deposits have been developed at all.

In some instances nearly all of the talc obtained from a certain State is used for one particular purpose, as that from New York, which is used almost exclusively as a filler in the manufacture of paper. The States that have produced talc or soapstone are California, Connecticut, Georgia, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania and Vermont.

The demand for talc for grinding and also for cutting into pencils, gas tips, etc., is constantly increasing, and at the present time the domestic production is not equal to the demand. This scarcity has caused an increase in the price of talc suitable

for gas tips, electrical insulators, burners, pencils, etc., and now there is a considerable quantity of Bavarian steatite or soapstone imported to satisfy this domestic demand. Hence any new property is worthy of investigation, and many of the larger producers of talc, and especially the manufacturers of the articles mentioned, are on the lookout for deposits of talc suitable for their purposes.

PRODUCTION.—The production of 1905 in all of the States, exclusive of New York, was 40,134 short tons, valued at \$637,062, an increase of 12,950 tons in quantity and of \$203,731 in value, as compared with the production in 1904, which amounted to 27,184 short tons, valued at \$433,331. Of the total quantity of talc mined or quarried but a small proportion is sold in the crude state, and the values given represent the value of the talc in the condition in which it is marketed.

PRODUCTION IN NEW YORK.—On account of the large production of fibrous talc from New York, which amounts usually in quantity to nearly double the talc obtained from all the other States, and, as nearly all of it is used in the manufacture of paper, it is given separately in this report.

In the mill the talc is put through a number of crushing operations. The final grinding is effected in Alsing cylinders which use steam flint pebbles from Greenland and Labrador.

In 1905 the production of fibrous talc in New York amounted to 56,500 short tons, valued at \$445,000, as compared with 64,005 short tons, valued at \$507,400, in 1904, a decrease of 7,505 tons in quantity and of \$62,400 in value. The average price per ton in 1905 was \$7.88, as compared with \$7.92 in 1904, and with \$7 in 1903, a decrease of 4 cents per ton from 1904 and an increase of 88 cents per ton as compared with 1903.

In the following table are given the quantity and value of the talc and soapstone produced in the United States in the past five years:

Year.	Short tons.	Value.
1901	97,843	\$908,488
1902	97,954	1,140,507
1903	86,901	840,060
1904	91,189	940,731
1905	96,634	1,082,062

The importation of talc into the United States has been very irregular and never amounted to a very large quantity. In 1905 the imports aggregated 4,000 short tons, valued at \$48,225, as compared with 3,268 tons, valued at \$36,370 in 1904.

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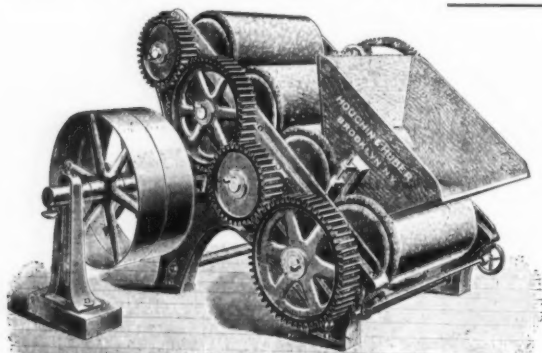
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